AMENDMENTS TO THE CLAIMS

1, (Currently amended) A surface treatment method characterized by treating a surface with a supercritical fluid, wherein

an ammonium hydroxide expressed by the formula (1) below is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 $\frac{C^{\circ}}{\circ}$ degrees C_{-} and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$\left(\begin{array}{c} R^1 \\ | \\ R^2 - N - R^4 \\ | \\ R^3 \end{array} \right) + OH^{-} \cdots (1)$$

where each of R^1 to R^4 in the formula (1) independently denotes an alkyl group, hydroxy-substituted alkyl group, aryl group or hydrogen.

- (Previously presented) The surface treatment method according to claim 1, wherein said surface has a structural body thereon.
- (Previously presented) The surface treatment method according to claim 2, wherein said structural body is a fine structural body with a hollow portion, a micro electromechanical systems, or an electrode pattern.

 (Previously presented) The surface treatment method according to claim 2, wherein said surface is that of a photomask utilized for lithography.

- (Previously presented) The surface treatment method according to claim 1, wherein said supercritical fluid is carbon dioxide.
- (Previously presented) The surface treatment method according to claim 1, wherein said supercritical fluid is further added with a surfactant material.
- (Previously presented) The surface treatment method according to claim 6, wherein said surfactant material is a polar solvent.
- (Currently amended) A surface treatment method characterized by treating a surface with a supercritical fluid, wherein

an alkanolamine expressed by the formula (2) below is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 <u>C° degrees C</u>, and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$R^1 R^2 - N - CH_2 CH_2 - O - R^3 \cdots (2)$$

where each of \mathbb{R}^1 to \mathbb{R}^3 in formula (2) independently denotes an alkyl group, hydroxysubstituted alkyl group, aryl group or hydrogen.

- (Previously presented) The surface treatment method according to claim 8, wherein said surface has a structural body thereon.
- 10. (Previously presented) The surface treatment method according to claim 9, wherein said structural body is a fine structural body with a hollow portion, a micro electromechanical systems, or an electrode pattern.
- 11. (Previously presented) The surface treatment method according to claim 9, wherein said surface is that of a photomask utilized for lithography.
- 12. (Previously presented) The surface treatment method according to claim 8, wherein said supercritical fluid is carbon dioxide.
- 13. (Previously presented) The surface treatment method according to claim 8, wherein said supercritical fluid is further added with a surfactant material.

14. (Previously presented) The surface treatment method according to claim 13, wherein said surfactant material is a polar solvent.

15. (Currently amended) A surface treatment method characterized by treating a surface with a supercritical fluid, wherein

an amine fluoride expressed by the formula (3) below is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 Codegrees Code MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$\left(\begin{array}{c}
R^1 \\
| \\
R^2 - N - R^4 \\
| \\
R^3
\right) + F - \cdots (3)$$

where each of R^1 to R^4 in the formula (3) independently denotes an alkyl group, hydroxy-substituted alkyl group, aryl group or hydrogen.

- 16. (Previously presented) The surface treatment method according to claim 15, wherein said surface has a structural body thereon.
- 17. (Previously presented) The surface treatment method according to claim 16, wherein said structural body is a fine structural body with a hollow portion, a micro electromechanical systems, or an electrode pattern.

- 18. (Previously presented) The surface treatment method according to claim 16, wherein said surface is that of a photomask utilized for lithography.
- 19. (Previously presented) The surface treatment method according to claim 15, wherein said supercritical fluid is carbon dioxide.
- 20. (Previously presented) The surface treatment method according to claim 16, wherein said supercritical fluid is further added with a surfactant material.
- (Previously presented) The surface treatment method according to claim 20, wherein said surfactant material is a polar solvent.
- 22. (Currently amended) A surface treatment method characterized by treating a surface with a supercritical fluid, wherein

hydrofluoric acid is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of $40 \, \underline{C^0}$ degrees C. and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %.

6

Application No. 10/501,155 Docket No.: SON-2563

23. (Previously presented) The surface treatment method according to claim 22, wherein said surface has a structural body thereon.

- 24. (Previously presented) The surface treatment method according to claim 23, wherein said structural body is a fine structural body with a hollow portion, a micro electromechanical systems, or an electrode pattern.
- 25. (Previously presented) The surface treatment method according to claim 23, wherein said surface is that of a photomask utilized for lithography.
- 26. (Previously presented) The surface treatment method according to claim 22, wherein said supercritical fluid is carbon dioxide.
- 27. (Previously presented) The surface treatment method according to claim 22, wherein said supercritical fluid is further added with a surfactant material.
- 28. (Currently amended) The surface treatment method according to claim 27, wherein said surfactant material is a polar solvent.

29. (Currently amended) A semiconductor device obtainable by a surface treatment method characterized by treating a surface with a supercritical fluid, wherein

an ammonium hydroxide expressed by the formula (1) below is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 Codegrees Code MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$\left(\begin{array}{c}
R^{1} \\
| \\
R^{2} - N - R^{4} \\
| \\
R^{3}
\end{array}\right) + OH - \dots (1)$$

where each of \mathbb{R}^1 to \mathbb{R}^4 in the formula (1) independently denotes an alkyl group, hydroxy-substituted alkyl group, aryl group or hydrogen.

30. (Currently amended) A semiconductor device obtainable by a surface treatment method characterized by treating a surface with a supercritical fluid, wherein

an alkanolamine expressed by the formula (2) below is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 \underline{C}° degrees C, and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$R^1 R^2 - N - CH_2 CH_2 - O - R^3 \cdots (2)$$

where each of \mathbb{R}^1 to \mathbb{R}^3 in formula (2) independently denotes an alkyl group, hydroxy-substituted alkyl group, aryl group or hydrogen.

Docket No.: SON-2563

31. (Currently amended) A semiconductor device obtainable by a surface treatment method characterized by treating a surface with a supercritical fluid, wherein

an amine fluoride expressed by the formula (3) below is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 \underline{C}^0 degrees C, and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$\left(\begin{array}{c}
R^1 \\
| \\
R^2 - N - R^4 \\
| \\
R^3
\right) + F - \cdots (3)$$

where each of \mathbb{R}^1 to \mathbb{R}^4 in the formula (3) independently denotes an alkyl group, hydroxy-substituted alkyl group, aryl group or hydrogen.

32. (Currently amended) A semiconductor device obtainable by a surface treatment method characterized by treating a surface with a supercritical fluid, wherein

hydrofluoric acid is added as a co-solvent agent to said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 \underline{C}^0 degrees C_r and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %.

 (Currently amended) A method of fabricating a semiconductor device, said method comprising;

adding an ammonium hydroxide expressed by the formula (1) below as a co-solvent agent to a supercritical fluid, and

treating a surface of said semiconductor device with said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 \underline{C}^o degrees C_r and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$\left(\begin{array}{c}
R^{1} \\
| \\
R^{2}-N-R^{4} \\
| \\
R^{3}
\end{array}\right)^{+} OH^{-} \dots (1)$$

where each of R^1 to R^4 in the formula (1) independently denotes an alkyl group, hydroxy-substituted alkyl group, aryl group or hydrogen.

34. (Currently amended) A method of fabricating a semiconductor device, said method comprising;

adding an alkanolamine expressed by the formula (2) below as a co-solvent agent to a supercritical fluid, and

treating a surface of said semiconductor device with said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 \underline{C}^o degrees C- and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$R^1 R^2 - N - CH_2 CH_2 - O - R^3 \cdots (2)$$

where each of \mathbb{R}^1 to \mathbb{R}^3 in formula (2) independently denotes an alkyl group, hydroxysubstituted alkyl group, aryl group or hydrogen.

35. (Currently amended) A method of fabricating a semiconductor device, said method comprising:

adding an amine fluoride expressed by the formula (3) below as a co-solvent agent to a supercritical fluid, and

treating a surface of said semiconductor device with said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 \underline{C}^o degrees C- and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %:

$$\left(\begin{array}{c}
R^1 \\
| \\
R^2 - N - R^4 \\
| \\
R^3
\right) + F - \cdots (3)$$

where each of \mathbb{R}^1 to \mathbb{R}^4 in the formula (3) independently denotes an alkyl group, hydroxy-substituted alkyl group, aryl group or hydrogen.

36. (Currently amended) A method of fabricating a semiconductor device, said method comprising;

adding hydrofluoric acid as a co-solvent agent to a supercritical fluid, and

treating a surface of said semiconductor device with said supercritical fluid so that the total amount of the addition of the co-solvent in proportion to the supercritical fluid of 40 \underline{C}^o degrees G- and 8 MPa is adjusted within a concentration range of 0.1 to 2 mol %.

37-41. (Canceled)

- 42. (Previously presented) The method according to claim 1 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 43. (Previously presented) The method according to claim 8 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 44. (Previously presented) The method according to claim 15 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 45. (Previously presented) The method according to claim 22 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 46. (Previously presented) The semiconductor device according to claim 29 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.

- 47. (Previously presented) The semiconductor device according to claim 30 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 48. (Previously presented) The semiconductor device according to claim 31 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 49. (Previously presented) The semiconductor device according to claim 32 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 50. (Previously presented) The semiconductor device according to claim 33 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 51. (Previously presented) The semiconductor device according to claim 34 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.
- 52. (Previously presented) The semiconductor device according to claim 35 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.

Application No. 10/501,155 Docket No.: SON-2563

53. (Previously presented) The semiconductor device according to claim 36 wherein said proportion is adjusted to within a concentration range of 0.1 to 1 mol %.